

CLAIMS

1. A method of operating a multicast transmission system comprising a first station (100) and a plurality of second stations (200), the method comprising
- 5 at the first station (100), transmitting data;
at each of the second stations (200):
receiving the data;
determining whether the received data is fully decodable;
10 if the data is not fully decodable, transmitting a reply signal; and
at the first station (100):
receiving the reply signal from at least one of the second stations (200),
and
in response to receiving the reply signal, retransmitting at least a portion
15 of the data;
further comprising
the reply signal being devoid of an indication of the identity of the transmitting second station (200);
at the first station (100):
20 selecting, for retransmitting the data, between a dedicated mode in which the data is addressed to one of the second stations (200) and a broadcast mode in which the data is broadcast to a plurality of the second stations (200);
in response to selecting the dedicated mode and prior to the
25 retransmission, transmitting a further signal;
at each of the second stations (200) which transmitted the reply signal, in response to receiving the further signal, transmitting an indication of its identity; and
at the first station (100), receiving the indication of identity and employing the
30 indication of identity to address the retransmission to one of the second stations (200).

2. A method as claimed in claim 1, further comprising estimating the number of second stations (200) transmitting the reply signal and selecting the mode dependent on the estimate.

5 3. A method as claimed in claim 1 or 2, wherein the reply signal is transmitted in an access slot indicative of a portion of data to be retransmitted.

4. A method as claimed in claim 1, 2 or 3, wherein the reply signal comprises a signature indicative of a portion of data to be retransmitted.

10 5. A method as claimed in any one of claims 1 to 4, wherein the further signal comprises a positive acknowledgement.

6. A method as claimed in any one of claims 1 to 5, wherein the transmitted indication of identity comprises a message transmitted on a random access channel having an access service class (ASC) different from the ASC of the reply signal.

7. A communication station (100) for use in a multicast transmission system comprising a plurality of second stations (200), the communication station (100) comprising:
means (140) for transmitting data;
means (160) for receiving a reply signal from at least one of the second stations, and
25 means (120) responsive to receiving the reply signal for retransmitting at least a portion of the data;
further comprising
means (180) for selecting, for retransmitting the data, between a dedicated mode in which the data is addressed to one of the second stations (200) and a
30 broadcast mode in which the data is broadcast to a plurality of the second stations (200);

means (190) responsive to selecting the dedicated mode for transmitting a further signal;

means (160) for receiving an indication of identity transmitted by a second station (100); and

5 means (130) for employing the indication of identity to address the retransmission to one of the second stations (200).

8. A communication station (100) as claimed in claim 7, wherein the means (180) for selecting the mode is adapted to estimate the number of
10 second stations (200) transmitting the reply signal and to select the mode dependent on the estimate.

9. A communication station (200) for use in a multicast transmission system, the communication station (200) comprising:
15 means (260) for receiving data;
means (270) for determining whether the received data is fully decodable; and
means (220) responsive to the data not being fully decodable for transmitting a reply signal devoid of an indication of identity of the communication station (200); and
20 means (220) responsive to receiving a further signal for transmitting an indication of identity of the communication station (200);
means (260) for receiving a retransmission of at least a portion of the data whether addressed to the communication station (200) or whether broadcast.

25 10. A communication station (200) as claimed in claim 9, wherein the means (220) for transmitting the reply signal is adapted to indicate a portion of the data for which retransmission is requested by selection from a plurality of at least one of a time slot and a signature.

30 11. A multicast transmission system comprising a first station (100) in accordance with claim 7 or 8 and a plurality of second stations (200) in accordance with claim 9 or 10.